



# Committee On Finance

Max Baucus, Ranking Member

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## **Floor Statement of U.S. Senator Max Baucus (D-Mont.) Regarding Introduction of Energy Competitiveness Bill**

In the years when I first began to serve in Congress, America faced severe problems with supplies of oil. For years, long gas lines, frustration, and questions about the security of our oil supply drove the public debate.

Thirty years have passed. And, frankly, things have not changed all that much. We still use gasoline and coal at staggering rates. And we are still concerned about the security of our oil supply. We do not have lines at gas stations. But last year, prices rose to levels unimaginable just a few years ago.

Prices for gasoline, heating oil, electricity, and natural gas have soared in recent years, hitting working families hard. In the past few weeks, we have seen a terrorist attack on Saudi Arabian oil facilities. We have seen oil workers kidnapped in Nigeria. We have seen Venezuelan President Hugo Chavez threaten that he would cut off our supply of oil from his country. And we have seen some question whether Iran's role as an oil supplier keeps other countries from properly addressing Iran's threat to nuclear proliferation.

Energy provides one of America's greatest challenges for the 21st century. Our economy has been dependent on oil and coal for about 100 years. And since World War II, natural gas has become part of the equation. Will we continue this dependency for the next 100 years?

The cost of energy will profoundly affect the future competitiveness of the American economy. As the Chinese and Indian economies grow, so will their demand for energy. And that will add further upward pressure to energy prices.

To respond to the challenges of the new world economy, I am introducing legislation in seven key areas to build a foundation for a more competitive America. We must improve education, health care, trade law enforcement, the tax code, and savings. And we must bring a greater focus to energy research and development. Today, I introduce the Energy Competitiveness Act of 2006.

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We are trapped in an energy box. It is a box characterized by high imports, ever-increasing prices for oil and natural gas, and environmental danger. We must experiment with ways to break out of that box. To break out, we need an energy research effort modeled after the Manhattan project, or the Apollo mission to the moon.

America has a brilliant record of gathering the best minds. We meet challenges that may at first seem to be impossible. During World War II, the Manhattan project brought together brilliant physicists and engineers to build an atomic bomb in 3 short years. And after President Kennedy described his vision to a joint session of Congress in May of 1961, the Apollo space program put a man on the moon in just 8 years.

Looking back, these achievements were stunning. Both projects started out with no guarantee of success. Each could have ended in utter failure. Yet because of the talent, ingenuity, and focus of creative minds, they both succeeded.

Breaking out of the energy box poses a similar challenge. Success is not guaranteed. But we have got to give it our best shot.

Today I am introducing the Energy Competitiveness Act of 2006. My legislation would create a new energy research agency. It would extend key alternative energy tax relief. It would help our Nation face the challenges of a newly competitive global economy. It would help to move us into a new energy future.

### **Creation of ARPA-E: Advanced Research Projects Agency — Energy**

We have the greatest research scientists on the planet. We have the most technically-talented workforce in the world. But we do not have the vigor that we need in energy research. Energy research is a backwater, compared to other research efforts in biotechnology, medicine, computers, and defense-oriented projects.

With the Manhattan project and the Apollo space program, America proved that we can gather the best talent for a focused mission and succeed. It is time that we begin a similar effort on energy.

We need to create a new agency to initiate cutting-edge, innovative energy research and development aimed at taking us to a new energy future. Doing so is essential to our effort to improve our economic competitiveness.

The new agency is modeled on DARPA — the Defense Advanced Research Projects Agency — in the Department of Defense. Among the revolutionary technologies that DARPA has developed are the Internet and stealth technology for aircraft. DARPA has been a tremendous success.

The National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine joined to form the Committee on Prospering in the Global Economy of the 21st Century. Norm Augustine chaired the Committee. Based on DARPA's achievements, last fall, the Committee recommended the creation of an ARPA-E: Advanced Research Projects Agency — Energy.

This was one of a number of recommendations that the Committee made in its impressive report on the future competitive challenges that America faces. The Committee recommended that ARPA-E be designed to conduct transformative, out-of-the-box energy research.

My bill proposes that ARPA-E be a small agency with a total of 250 people. A minimum of 180 of them would be technical staff. A director of the agency and four deputies would lead ARPA-E. I propose that ARPA-E be funded at \$300 million in fiscal year 2007, \$600 million in 2008, \$1.1 billion in 2009, \$1.5 billion in 2010, and \$2.0 billion in 2011.

We would require that the staff have a technical background. The agency would use the Experimental Personnel Authority designed for DARPA. That authority authorizes higher salaries than for typical Federal employees, and faster hiring, so that the agency could get to work quickly.

To keep the intense, innovative focus that we want, technical staff would be limited to 3 to 4 years at the agency. Managers would be limited to 4 to 6 years. The director could give both groups extended terms of employment if the director so chose.

For contracts, the agency would use the DARPA procedure. That procedure allows more flexible contracting arrangements than are normally possible under the Federal Acquisition Regulations. To ensure that ARPA-E would conduct innovative research, 75 percent of research projects initiated by ARPA-E would not be peer reviewed.

The ARPA-E would be authorized to award cash prizes to encourage and accelerate energy research accomplishments.

Finally, the bill would require a report by the end of fiscal year 2007 on whether ARPA-E would need its own energy research lab.

### **Extending Alternative Energy Tax Incentives**

The Energy Competitiveness Act would also increase our commitment to develop promising energy technologies. In the Energy Policy Act of 2005, last year's energy bill, we established several important incentives to foster new forms of energy production and to encourage conservation.

America's investment in alternative energy and conservation lags well behind that of other developed countries. The 2005 energy bill put us on the right track by expanding the tax credit for electricity from renewable resources. It created incentives for coal gasification technologies. It encouraged investment in refineries that can handle North American feedstocks. And it established tax credits for energy-efficient buildings and equipment.

Unfortunately, these provisions are either short-term or capped at insufficient levels. The Energy Competitiveness Act that I introduce today would bolster the first steps made in 2005. The bill that I introduce today would extend these important provisions and increase the amount of tax incentives available.

The bill would extend through 2010 the tax credit for electricity produced from wind, biomass, geothermal, and other renewable sources. It would also increase the volume caps on Clean Renewable Energy Bonds and coal gasification tax credits.

The bill would make permanent enhanced depreciation for new refining capacity that is capable of refining non-conventional feedstocks.

North America has abundant energy resources that could ease our demand for oil from the Mideast. But today, many of our refineries are incapable of processing heavier feedstocks, such as oil from shale or tar sands. Making this provision permanent would provide the needed certainty for long-term investments in capital intensive refining projects.

The Energy Competitiveness Act that I introduce today would encourage businesses to purchase alternative fuel and electric vehicles. And it would extend through 2010 many of the incentives from the 2005 bill that promote investment in energy-efficient buildings and equipment.

### **Building on the Progress that We Are Making**

We are seeing exciting new efforts in America to strengthen our energy competitiveness. We need to build on this foundation by creating an aggressive energy research agency that will push the limits of new technology and discover alternative energy sources.

America has massive coal reserves. So coal gasification is receiving greater attention. Gasification involves breaking down coal under heat and pressure to create synthetic natural gas. We must address the environmental issues. But if this technology can be improved, then America will be able to take a huge step toward energy independence.

There are exciting developments in wind energy. In Montana, the Judith Gap Wind Farm has been generating power at full capacity for several weeks. The farm includes 90 wind turbines. Each turbine can produce enough electricity for roughly 400 homes. The entire farm can produce the electricity needed to supply 300,000 customers. Montana was one of nine states that put in place more than 100 megawatts of wind power generation in 2005. And my state ranks in the top 15 states in the Nation for wind power capacity.

Fusion is another possible area where aggressive research could lead to huge payoffs. Continuing research will help us to determine whether energy production through fusion is a practical option.

Ethanol is also gaining as an alternative energy option. In 2005, Americans invested more than \$850 million in ethanol plants. Ford Motor Company has plans for producing 250,000 vehicles in 2006 that will be able to use several different types of fuel, including ethanol.

Brazil, with the help of ethanol, expects to become energy independent this year. Ethanol accounts for 20 percent of Brazil's fuel transport market. Seven out of every 10 cars in Brazil can run on ethanol, gasoline, or a mixture of both.

In Iceland, all electricity generation is from renewable sources. Iceland is now taking the next step, and has started an initiative to replace the use of fossil fuels with hydrogen by 2050.

To achieve this, in 1999, Icelanders founded a public-private partnership called Icelandic New Energy. This partnership is the main driver in hydrogen energy research and implementation in Iceland. Public hydrogen-fueled buses began service in December of last year. And experiments continue with hydrogen-driven consumer motorcycles, small cars, and fishing boats.

We live in a much larger and more complex nation than Iceland or Brazil. But we can share their vision of a future fueled by alternative energy and improved conservation.

There are also exciting developments in nanotechnology, solar power, energy-efficient materials, biomass, and green buildings.

All of these are examples of possible directions for our Nation's energy future. But we need a more aggressive and focused research and development effort to push these alternatives. And we need an effort to create scientific breakthroughs to supplement existing technologies.

We have got to give it our best shot. As President Franklin Roosevelt said, we must conduct "bold, persistent experimentation."

Our economic security is at stake. Our ability to compete in the new world economy is at stake.

ARPA-E will help us move forward on existing technologies. It will help us to find new technologies that are not even imaginable today. And the tax incentives will keep us on the right track until more dramatic breakthroughs occur.

I urge my Colleagues to look closely at this legislation.

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